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Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

STEIN, JULIE E

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,623

Applicant(s)

JHA ET AL.

Examiner

Julie E. Stein, Esq.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) 40-66 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32,36 is/are allowed.
- 6) ☒ Claim(s) 1-31 and 3-35,37-39 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention: The embodiment shown in Figures 2-9 and the embodiment shown in Figures 10-13.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over

the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Mr. Donald C. Kordich on July 29, 2005 a provisional election was made without traverse to prosecute the invention of Species 1, corresponding to claims 1-39. Affirmation of this election must be made by applicant in replying to this Office action. Claims 40-66 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,853,848 to Sahinoglu.

Sahinoglu discloses all the elements of independent claim 1, including, a location services apparatus (Figure 1) for providing location services to a mobile station (Id.), comprising: a) a CPU (element 140); b) a memory (element 200) coupled to the CPU, where in the memory stores data pertaining to location services equipment identify information and location services equipment identifiers (column 2, lines 26 to 38 and lines 52 to 55); and c) an equipment identity processor coupled to the CPU and to the

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memory (element 130, the service manager is inherently a processor as well as a server in view of its described function), wherein the equipment identity processor is configured to receive location services equipment identifiers and to retrieve location equipment identity information (column 2, lines 37 to 45), and wherein the equipment identity processor selectively generates location services control signals that control operation of the CPU responsive to an identified characteristic of the location services equipment identity (column 2, lines 45 to 50).

Sahinoglu also discloses all the elements of claim 2, including wherein the location services equipment identity information and the location services equipment identifiers are associated with and correspond to a mobile station. See column 2, lines 38 to 50.

Sahinoglu also discloses all the elements of claim 3, including the apparatus further comprising an equipment identity server, wherein the equipment identity server is configured to provide the characteristic of the mobile station to the equipment identity processor. See column 2, lines 11 to 50.

Sahinoglu also discloses all the elements of claim 8, including wherein the location services control signals cause the CPU to store information in the memory. See column 2, lines 31 to 51, where the memory is continually updating.

5. Claims 9 and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,650,902 to Richton.

Richton discloses all the elements of independent claim 9, including a communication system for providing location services to a mobile station (abstract), the

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system comprising: a) a base station system (Figure 2); and b) a location server (221) coupled with the base station system (Figure 2), wherein the location server is configured to selectively generate location services control signals to control operation of the system (column 3, lines 9 to 28) in response to a characteristic of the mobile station to which location services are to be provided (Id.).

Richton discloses all the elements of independent claim 14, including a communication system (abstract) comprising: a) a means for providing location services to a mobile station (column 3, lines 9 to 28); and b) a means for controlling the means for providing location services based at least in part on an identified location services characteristic of the mobile station (column 3, lines 28 to 62).

Richton discloses all the elements of claim 15, including a means for identifying a mobile station to which location services are to be provided. See column 3, lines 8 to 28.

Richton discloses all the elements of claim 16, including a means for storing data based at least in part on the identified location services characteristic of the mobile station. See column 3, lines 8 to 62.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 4 to 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sahinoglu in view of U.S. Patent No. 6,799,049 to Zellner et al.

9. Sahinoglu teaches all the elements of claims 4 and 5, except wherein the characteristic includes a manufacturer identifier or model identifier of the mobile station. However, Zellner teaches a location server, which includes a memory for storing data including location and identity information relating to wireless devices. See column 2, lines 54 to 65. As to the type of identification information stored, such information as unique identification numbers, such as MINs and serial numbers could be used, or any other unique attributes of the wireless device. See *Id.* Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to understand that the characteristic relating to the mobile station could be a manufacturer identifier or a model identifier because as taught by Zellner, it is well known for a location server to use a unique identifier to identify a mobile device. See *Id.*

10. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sahinoglu in view of Zellner as applied to claim 2 above, and further in view of U.S. Patent No. 6,219,557 to Havinis.

Sahinoglu in view of Zellner teach all the elements of claims 6 and 7, except wherein the characteristic includes an error code associated with the mobile station and wherein the location services control signals compensate for an error associated with the error code. However, Havinis teaches a system and method for locating a mobile device in which if a mobile device is not registered with a given HLR or the routing information is not available, a location request with be answered with a rejection message (an error code). See column 5, lines 18 to 30. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to understand that a characteristic of the mobile station could be an error code or message as taught by Havinis.

In addition, one of ordinary skill in the art would have known at the time the invention was made that if an error code was received, then the location services apparatus would compensate for the error code, for example in Havinis by retrying the location request by contacting another HLR or SGSN to determine where the mobile station was registered and the correct routing.

11. Claims 10-11, 17-22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,650,902 to Richton in view of Zellner.

Richton teaches all the elements of independent claim 10 and dependent claim 11, including a method of providing location services to a mobile station, the method

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comprising the steps of: a) receiving a request for location services to be provided to the mobile station (column 2, lines 41 to 59); and b) identifying a location services characteristic of the mobile station in response to the request (column 3, lines 8 to 28).

However, Richton does not explicitly teach, wherein the location services characteristic comprises one or more of the following characteristics: a manufacturer, a model, a bug, an error code; and c) selectively generating location services control signals based at least in part on the location services characteristic identified in step b) and storing data based at least in part on the location services characteristic of the mobile station. However, Zellner teaches a location server, which includes a memory for storing data including location and identity information relating to wireless devices. See column 2, lines 54 to 65. As to the type of identification information stored, such information as unique identification numbers, such as MINs and serial numbers could be used, or any other unique attributes of the wireless device. See *Id.*

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to understand that the characteristic relating to the mobile station could be a manufacturer identifier or a model identifier as taught by Zellner, that it is well known for a location server to store and use a unique identifier to identify a mobile device (see *Id.*) and that the location services taught in Richton would be generated in view of such an unique identifier as taught by Zellner because Richton clearly uses unique identifiers to identify each mobile station to which location services are offered. See column 3, lines 8 to 28.

Richton also teaches all the elements of independent claim 17, including a method of operating a location server (Figure 3), comprising the steps of: a) receiving a request for location services associated with a mobile station (column 2, lines 41 to 59); and c) storing at least one parameter based on the identified mobile station type (column 3, lines 8 to 28). However, Richton does not explicitly teach, b) identifying a mobile station type of the associated mobile station. But, Zellner teaches a location server, which includes a memory for storing data including location and identity information relating to wireless devices. See column 2, lines 54 to 65. As to the type of identification information stored, such information as unique identification numbers, such as MINs and serial numbers could be used, or any other unique attributes of the wireless device. See *Id.* Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to understand that the characteristic relating to the mobile station could be a manufacturer identifier or a model identifier because as taught by Zellner, it is well known for a location server to use a unique identifier to identify a mobile device. See *Id.*

Richton in view of Zellner also teach all the elements of claims 18-22, including receiving a request for location services associated with a mobile station includes receiving a mobile station type identifier, manufacturer identifier, a mobile station model identifier, a mobile station user identifier, a mobile subscriber identity, an electronic serial number, or manufacturer model. See, Zellner, column 2, lines 54 to 65. The Examiner takes Official Notice that all of the above listed identifiers are well known in

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the art and would be understood by one of ordinary skill in the art to be included in the "unique identification numbers" described in Zellner.

Richton teaches all the steps of independent claim 24, including a method of operating a mobile switching center (Figure 2, element 220), comprising the steps of: a) receiving a request for location services associated with a mobile station (column 2, lines 41 to 59). However, Richton does not explicitly teach b) identifying a mobile station type of the associated mobile station; and c) communicating the request for location services and the mobile station type to a location server. But, Zellner teaches a location server, which includes a memory for storing data including location and identity information relating to wireless devices. See column 2, lines 54 to 65. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to understand that a type of mobile station, as taught by Zellner, would be used by a location server such as that taught by Richton to identify a specific mobile unit and this mobile type would be communicated to the location server along with the location request in order to identify the specific mobile unit making the request as taught by Richton (column 3, lines 8 to 28).

12. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richton in view of Zellner as applied to claim 10 above, and further in view of Havinis.

Richton in view of Zellner teach all the steps of claims 12 and 13, except wherein the location services control signals compensate for an error associated with the bug or with the error code. However, Havinis teaches a system and method for locating a mobile device in which if a mobile device is not registered with a given HLR or the

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routing information is not available a location request will be answered with a rejection message (an error code/bug). See column 5, lines 18 to 30. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to understand that a characteristic of the mobile station could be an error code or message as taught by Havinis. In addition, one of ordinary skill in the art would have known at the time the invention was made that if an error code was received, then the location services apparatus would compensate for the error code, for example in Havinis by retrying the location request by contacting another HLR or SGSN to determine where the mobile station was registered and the correct routing.

13. Claims 33-35 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2003/0186710 to Muhonen et al. in view of Zellner.

Muhonen teaches all the steps of claim 33, including a method of operating a location server (paragraph 7), comprising: a) receiving a request for location services associated with a mobile station (paragraph 41). However, Muhonen does not explicitly teach b) identifying a mobile station type of the associated mobile station; and c) storing and retrieving data associated with and corresponding to a performance parameter of the associated mobile station based on the identified mobile station type.

However, Muhonen does teach that a client (8), which may be a mobile station (paragraph 45) may request location services regarding mobile stations, these mobile stations having profiles stored in a service database within the location server node and that the accuracy of a location request may be determined by the quality of service

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parameters included in the location request. See paragraphs 45 to 50. In addition, Zellner teaches a location server, which includes a memory for storing data including location and identity information relating to wireless devices. See column 2, lines 54 to 65. As to the type of identification information stored, such information as unique identification numbers, such as MINs and serial numbers could be used, or any other unique attributes of the wireless device. See Id.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Muhonen to include identifying a mobile station type associated with the mobile station as taught by Zellner so as to uniquely identify each mobile station (Id.) and then to store and retrieve data associated with and corresponding to a performance parameter, such as QoS as taught by Muhonen in paragraph 43.

Muhonen in view of Zellner teaches all the steps of claim 34, including the step of providing location services using location services control signals based at least in part on the performance parameter. See, Muhonen, paragraph 43.

Muhonen in view of Zellner teaches all the steps of claim 35, including wherein the step of providing location services includes using location services control signals based at least in part on performance parameter information relating to one or more of the following: additional information associated with and corresponding to the mobile station type, preferred operating parameters associated with the mobile station type. See, Muhonen, paragraph 43 and Zellner, column 2, lines 54 to 65.

The rejection of claim 33 is hereby incorporated. Muhonen in view of Zellner teach all the steps of independent claim 37. Claim 37 is in essence the same method recited in claim 33, except that a plurality of mobile stations is recited. Muhonen teaches more than one mobile station and location requests and corresponding performance parameter determination. See paragraphs 41 to 43.

The rejections of claims 33 and 37 are hereby incorporated. Muhonen in view of Zellner teach all the steps of independent claim 38. Claim 38 is in essence the same method recited in claim 33 and 37, except the method relates to a communication system, including a plurality of mobile stations. Muhonen teaches a communication system including a plurality of mobile stations. See Figure 1.

Muhonen in view of Zellner teaches all the steps of claim 39, including receiving requests for location services from a plurality of mobile stations; and providing the requested location services. See, Muhonen, paragraphs 45 to 46.

14. Claims 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richton et al. in view of Zellner as applied to claim 24 above and further in view of U.S. Patent No. 6,771,950 to Shupe.

Richton in view of Zellner teach all the steps of claim 25, including receiving a unique mobile equipment identifier from the mobile switching center. See, Zellner, column 2, lines 54 to 65. However, Richton in view of Zellner does not teach querying a database for the mobile station type with the unique mobile equipment identifier. However, Shupe does teach that it is well known to query a database, which includes information that correlates electronic serial numbers to specific mobile subscribers. See

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column 1, lines 61 to 67. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to understand that if a mobile equipment identifier was received, a mobile station type could be determined by querying a database, which correlated the equipment identifier with the mobile station type as generally taught by Shupe. *Id.*

Richton in view of Zellner and further in view of Shupe teach all the steps of claim 26, including receiving a mobile station user identifier from the mobile switching center; and querying a database for the mobile station type corresponding to and associated with the mobile station user identifier. See, Shupe, column 1, lines 61 to 67.

Richton in view of Zellner and further in view of Shupe teach all the steps of claim 27, including wherein the mobile station user identifier may include an international mobile subscriber identity or an electronic serial number. See, Zellner, column 2, lines 54 to 65.

Richton in view of Zellner and further in view of Shupe teach all the steps of claim 28, including receiving an international mobile equipment identifier from the mobile switching center; and querying an equipment identification server for a manufacturer identifier and model identifier based on the received international mobile equipment identifier. See, Shupe, column 1, lines 61 to 67.

Richton in view of Zellner and further in view of Shupe teach all the steps of claim 29, including wherein receiving a request for location services associated with a requesting mobile station includes receiving a unique mobile equipment identifier as part of the request for location services. See, Zellner, column 2, lines 54 to 65.

Richton in view of Zellner and further in view of Shupe teach all the steps of claim 30, including wherein the unique mobile equipment identifier may be received as an element in the standard location request message. See Richton, column 2, lines 41 to 58 and Zellner, column 2, lines 54 to 65.

Richton in view of Zellner and further in view of Shupe teach all the steps of claim 31, including wherein the unique mobile equipment identifier may be transmitted as an element in a proprietary message between the mobile switching center and the location server. The Examiner takes Official Notice that it is well known in the art to send encrypted/proprietary messages between nodes in a network. Therefore, one of ordinary skill in the art at the time the invention was made would have known that if, for example, the location server was to confirm whether a user was authorized, a proprietary message, including, for example, an encryption key, may be used to transmit messages between a mobile switching center and a location server.

15. Claims 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richton et al. in view of Zellner as applied to claim 17 above and further in view of U.S. Patent Application No. 2003/0186710 to Muhonen et al.

Richton in view of Zellner teach all the steps of claim 23, except the step of determining a performance parameter related to the request for location services. However, Muhonen teaches that the accuracy of a location request may be determined by the quality of service parameters included in the location request. See paragraph 43. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Richton in view of Zellner to include determining a

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performance parameter, such as QoS parameters, which may be included in the location request as taught by Muhonen. *Id.*

Allowable Subject Matter

16. Claims 32 and 36 are allowed.

17. The following is a statement of reasons for the indication of allowable subject matter: The prior art as described above teaches receiving requests for location services associated with mobile stations and identifying mobile station types associated with various mobile stations. However, the prior art of record does not teach the above steps in combination with identifying and determining errors related to the location request and storing and retrieving data relating to the errors and corrective action based on the identified mobile station type from a database.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Nos. 6,810,257 to Amin teaches a method of responding to a service request from a wireless terminal by performing a database lookup; 6,731,941 to Kim teaches a system in which a location service center and an MSC are in communication; 6,377,810 to Geiger et al. teaches a method of a location server authenticating a mobile station; 6,081,712 to Buettner teaches a the use of a mobile station identification database with a location inquiry; and 6,070,083 to Watters et al. teaches error correcting location requests based on TDOA measurements related to base station pairs.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie E. Stein, Esq. whose telephone number is (571) 272-7897. The examiner can normally be reached on M-F (8:30 am-5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JES

Nguyen Vo
9-2-2005

NGUYENT.VO
PRIMARY EXAMINER